

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 05038878  
PUBLICATION DATE : 19-02-93

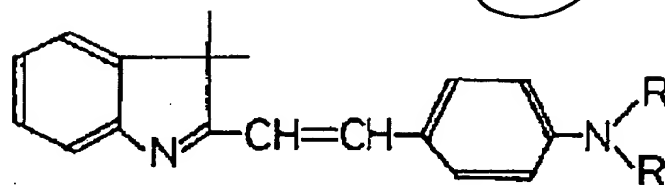
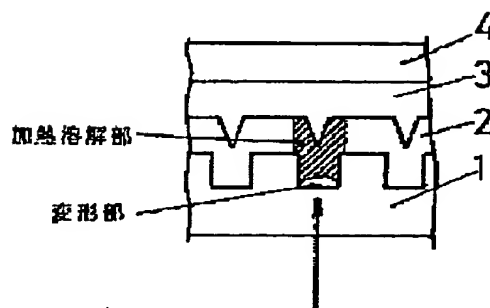
APPLICATION DATE : 07-08-91  
APPLICATION NUMBER : 03221160

APPLICANT : NIPPON COLUMBIA CO LTD;

INVENTOR : ISHIOKA TAKAYUKI;

INT.CL. : B41M 5/26 G11B 7/24

TITLE : LIGHT RECORDING MEDIUM



ABSTRACT : PURPOSE: To record a high-density information by using a specific styryl organic dye in a recording layer.

CONSTITUTION: An organic dye recording layer 2, a reflecting layer 3 and a resin protecting film 4 are provided on a light transmitting base plate 1 to form a light recording medium. At this time, the styryl organic dye expressed by the formula I (wherein R represents CH<sub>3</sub>, C<sub>2</sub> and H<sub>5</sub>) is used in the light recording layer.

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PUBLICATION NUMBER : 10151854  
PUBLICATION DATE : 09-06-98

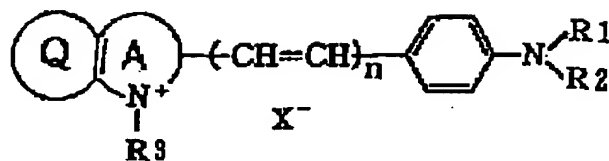
APPLICATION DATE : 21-11-96  
APPLICATION NUMBER : 08310569

APPLICANT : MITSUI CHEM INC;

INVENTOR : HIROSE SUMIO;

INT.CL. : B41M 5/26 C09B 23/00 G11B 7/24  
G11B 7/24 // C07D209/14 C07D263/56  
C07D263/60 C07D277/64 C07D277/84

TITLE : OPTICAL RECORDING MEDIUM



AM

ABSTRACT : PROBLEM TO BE SOLVED: To reduce a crosstalk to the minimum possible extent and also record data to the high density level.

SOLUTION: This optical recording medium consists of a recording layer containing a laser beam absorbing coloring matter formed, directly or through another layer, on a transparent base with grooves and a metal reflective layer formed, directly or through another layer, on the recording layer. In this case, Wg and P meet formula  $0.24r \leq Wg \leq 0.35r$ ,  $0.68r \leq P \leq 0.83r$ , given the diameter of a recording beam expressed by  $\lambda/NA$  as r [ $\lambda$  is a recording wavelength ( $\mu m$ ); Na is the numerical aperture of an objective lens], a pitch (track pitch) at which the grooves of the base are arranged as P ( $\mu m$ ); and the width of the grooves as Wg ( $\mu m$ ). In addition, the coloring matter is a styryl coloring matter as expressed by formula. In the formula, A is a group of atoms consisting of substituted or non-substituted 5- or 6-membered rings including one nitrogen atom; Q is a group of atom consisting of non-substituted or substituted benzene rings or naphthalene rings condensed to 5-membered or 6-membered rings; R1-R3 are a 1-12C non-substituted or substituted alkyl group; R1, R2 may form a ring with a benzene ring to which an amino group is bonded; n is 1 or 2; and X is a univalent anion.

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## Patent Abstracts of Japan

PUBLICATION NUMBER : 11034497  
PUBLICATION DATE : 09-02-99

APPLICATION DATE : 24-07-97  
APPLICATION NUMBER : 09198813

APPLICANT : NIPPON KANKO SHIKISO  
KENKYUSHO:KK;

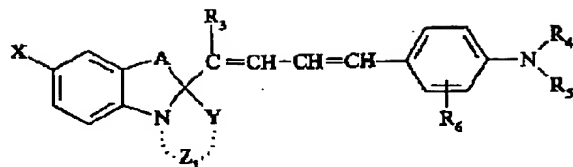
INVENTOR : OKAZAKI YASUKI;

INT.CL. : B41M 5/26 C09B 67/22 G11B 7/24 //  
C09B 23/00

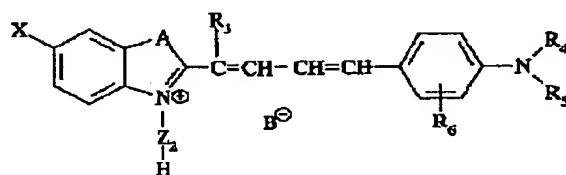
TITLE : OPTICAL RECORDING MEDIUM



AN



I



II

ABSTRACT : PROBLEM TO BE SOLVED: To enable recording by low output laser and to respond to densification and high speed recording by providing a recording layer containing a styryl dye having a specific structure on a transparent substrate.

SOLUTION: The recording layer 2 on a transparent substrate 1 contains a dye material represented by formula I or II. In the formula I, A is O, S or CR<sub>1</sub>R<sub>2</sub>; R<sub>1</sub> and R<sub>2</sub> are each lower alkyl, hydroxyalkyl or alkylene; R<sub>3</sub> is hydrogen, lower alkyl or CN; R<sub>4</sub> and R<sub>5</sub> are each lower alkyl or alkylene; R<sub>6</sub> is alkyl, alkoxy, halogen, CN, CF<sub>3</sub>, CH<sub>3</sub>CO, SO<sub>2</sub>CF<sub>3</sub>, COCF<sub>3</sub>, SO<sub>2</sub>Ph or CPh; Y is O or S; Z<sub>1</sub> is 2-4C alkylene and X is hydrogen, SO<sub>2</sub>CH<sub>3</sub>, CN, CF<sub>3</sub>, COCH<sub>3</sub>, SO<sub>2</sub>CF<sub>3</sub>, COCF<sub>3</sub>, SO<sub>2</sub>Ph, CPh, NO<sub>2</sub>, CH<sub>3</sub>, OCH<sub>3</sub> or halogen. In the formula II, Z<sub>2</sub> is 1-18C alkylene and B is halogen, an acid radical or an anion such as an alkoxy anion or the like. High density writing by laser beam becomes possible.

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PUBLICATION NUMBER : 08156408  
PUBLICATION DATE : 18-06-96

APPLICATION DATE : 29-11-94  
APPLICATION NUMBER : 06295085

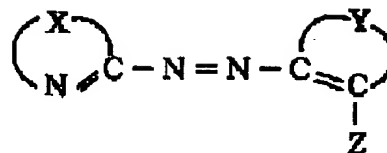
APPLICANT : MITSUI TOATSU CHEM INC;

INVENTOR : MISAWA TSUTAYOSHI;

INT.CL. : B41M 5/26 G11B 7/24

TITLE : OPTICAL RECORDING MEDIUM

A0



**ABSTRACT :** PURPOSE: To obtain an optical recording medium enabling recording and reproduction by using light with a specific wavelength and enabling reproduction or recording and reproduction by using light with a specific shorter wavelength by adding a complex of an azo compd. represented by a specific formula and a metal and a dye having large absorption with respect to a specific wavelength to a recording layer.

**CONSTITUTION:** A recording layer containing coloring matter, a reflecting layer and a protective layer are successively laminated on a transparent substrate to obtain an optical recording medium enabling recording and reproduction by light of 770-880nm and enabling reproduction or recording and reproduction by light of 620-690nm. The recording layer contains a complex of an azo compd. represented by formula and a metal and coloring matter having large absorption with respect to a wavelength of 720-850nm. In the formula, X is a residue forming a heterocyclic ring together with the nitrogen and carbon atoms bonded to X, Y is a residue forming an aromatic or heterocyclic ring together with two carbon atoms bonded to Y and Z is a group having active hydrogen.

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PUBLICATION NUMBER : 10181206  
PUBLICATION DATE : 07-07-98

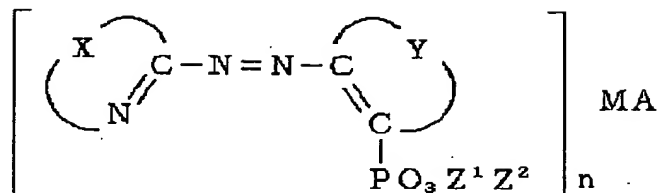
APPLICATION DATE : 26-12-96  
APPLICATION NUMBER : 08357302

APPLICANT : RICOH CO LTD;

INVENTOR : SASA NOBORU;

INT.CL. : B41M 5/26 C07D271/10 C07D277/50  
C07D277/82 C07D285/135 C09B 23/00  
G11B 7/24 // C07D233/88  
C07D233/90 C07D235/30

TITLE : OPTICAL RECORDING MEDIUM



AP

ABSTRACT : PROBLEM TO BE SOLVED: To perform recording and reproduction using a laser light of short wavelength by adding a specified compound into a recording layer.

SOLUTION: A recording layer contains at least one kind of azo metal chelate shown by a formula (where, M: a group 3-9 or 10 metal or an oxide or a halide thereof, A: an anion, X: a residue bonded with carbon and nitrogen atoms to form a plurality of rings, Y: a residue bonded with two carbon atoms to form an aromatic group, Z<sup>1</sup>, Z<sup>2</sup>: a hydrogen atom or a cation independently, n: an integer of 1-3, the Ring X and the ring Y may have a substituent, e.g. alkyl group, alkoxy group or amino group, independently). Since high light absorbance and reflectance are attained for wavelength of 700nm or below, recording and reproduction can be performed using a laser light in the wavelength region of 700nm or below where high density recording can be carried out.

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